

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-13 (Cancelled):

Claim 14 (Currently amended): An impurity introducing method which comprising:

a step of introducing an impurity selected from a group consisting of B, As, P, Sb and In into a surface of a semiconductor substrate; and

a step of radiating inactive He plasma to the surface of the semiconductor substrate after the impurity is introduced in the impurity introducing step, wherein the inactive He plasma is radiated while the semiconductor substrate is cooled.

Claim 15 (Previously presented): The impurity introducing method according to claim 14, wherein the step of radiating the plasma includes a step of radiating plasma such that the impurity possesses a desired impurity profile in the semiconductor substrate.

Claim 16 (Cancelled):

Claim 17 (Currently amended): The impurity introducing method according to claim ~~16~~14, wherein ~~the step of radiating the plasma includes a step of radiating He plasma~~ a temperature of the surface of the semiconductor substrate is kept below 200 degree Celsius.

Claim 18 (Cancelled):

Claim 19 (Previously presented): The impurity introducing method according to claim 14, wherein the step of introducing the impurity includes a plasma-doping step.

Claim 20 (Previously presented): The impurity introducing method according to claim 14, wherein the step of introducing the impurity includes an ion-implanting step.

Claim 21 (Previously presented): The impurity introducing method according to claim 14, wherein the step of introducing the impurity includes a gas-doping step.

Claim 22 (Withdrawn): A semiconductor device which is formed by using an impurity introducing method according to claim 14,

wherein the semiconductor device is formed to have the impurity profile in which the impurity concentration at a depth position of 4nm is set to be 1/10 or more of the impurity concentration on a surface of the semiconductor device.

Claim 23 (Withdrawn): The semiconductor device according to claim 22, wherein the semiconductor device is formed to have the impurity profile in which the impurity concentration at a depth position of 7nm is set to be 1/100 or more of the impurity concentration on the surface of the semiconductor device.

Claim 24 (New): An impurity introducing method comprising:
a step of introducing an impurity selected from a group consisting of B, As, P, Sb and In into a surface of a semiconductor substrate; and

a step of radiating inactive plasma to the surface of the semiconductor substrate after the impurity introducing step such that the impurity concentration at a depth position of 4nm is set to be 1/10 or more of the impurity concentration on the surface of the semiconductor substrate.

Claim 25 (New): The impurity introducing method according to claim 24, wherein the impurity concentration at a depth position of 7nm is set to be 1/100 or more of the impurity concentration on the surface of the semiconductor substrate.

Claim 26 (New): An impurity introducing method comprising:
a step of introducing an impurity selected from a group consisting of B, As, P, Sb and In into a surface of a semiconductor substrate; and
a step of radiating inactive He plasma to the surface of the semiconductor substrate after the impurity is introduced in the impurity introducing step, wherein the inactive He plasma knocks the impurity introduced in the surface.

Claim 27 (New): The impurity introducing method according to claim 17, wherein the temperature of the surface of the semiconductor substrate is kept below 100 degree Celsius.